

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, and 37-48 are pending in this application. Claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, and 31-36 are canceled by the present response without prejudice and new claims 37-48 are presented for examination. Those new claims are deemed to be self-evident from the original disclosure and thus are not deemed to raise any issues of new matter.¹ Claims 1, 2, 5, and 6 were rejected under 35 U.S.C. §102(e) as anticipated by U.S. patent 5,986,675 to Anderson et al. (herein “Anderson”). Claims 3, 4, and 7-36 were rejected under 35 U.S.C. §103(a) as unpatentable over Anderson in view of U.S. patent 5,982,909 to Erdem et al. (herein “Erdem”).

Addressing now the above-noted rejections, those rejections are traversed by the present response.

Applicants initially note several of the above-noted claims are canceled by the present response without prejudice and the other independent claims are amended by the present response to clarify features recited therein. For example independent claim 2 now clarifies specifying “one of a plurality of frames as a reference frame”, in addition to specifying at least one object region in the video data. Independent claim 2 also clarifies obtaining “conversion parameters representing coordinate conversion”. Independent claim 6 is similarly amended. The other pending claims now depend from one of the above-noted amended independent claims 2 or 6. The claimed features are believed to clearly distinguish over the applied art.

One object in the claimed invention is to describe a desired object region with a small quantity of data to facilitate generating the object region and handling data of the object

¹ For support for the newly claimed features see for example Figures 18, 24, 28, and 33, and see also for example the present specification at page 48, lines 5-10; page 32, line 17; page 68, line 24; page 75, line 18 to page 76, line 16.

region. With reference to Figure 6 in the present specification as a non-limiting example, the reference object region in the reference frame is described as it is (as reference object region information 509) and the object regions in other frames are described by parameter information 510. As noted in the present specification at page 32, lines 18-19, the reference frame can be arbitrarily selected.

Parameter information is defined as follows. A coordinate conversion parameter from a coordinate of a pixel in the reference object region in the reference frame to a coordinate of a corresponding pixel in the object region in another frame is obtained. Non-limiting examples of a conversion parameter are shown in equations (1) to (7) on page 21 of the present specification. If the video data includes a plurality of frames, conversion parameters are obtained for each of the plurality of frames (see for example Figure 3 in the present specification). As also described in the present specification at page 25, line 27 to page 26, line 11, the conversion parameters are converted to (approximated by) a time function. Namely, “n” number of conversion parameters a_i ($0 \leq i \leq n-1$) (e.g. $n=12$) in a certain time interval are expressed by $a_i=f_i(t)$ (where $f_i(t)$ is the function of time t). In that case $f_i(t)$ may be a polynomial, a Spline function, a constant, or the like.

As further described in the present specification at page 26, line 19 to page 27, line 6, an advantage of expressing parameter a_i by a function is that the quantity of data for describing object regions can be reduced. If a polynomial of a second degree or lower is used as a function, for example, three real numbers suffice to describe all parameters value in a certain time interval since this function can be expressed by three real numbers. If a polynomial or a Spline function is used as a function expressing the conversion parameters, the conversion parameter a_i is determined so that the error between the values of a_i and the conversion target time interval and the values calculated by the function $f_i(t)$ may become small.

The function is described as a non-limiting example on page 32, lines 2-12. The reference symbol 510 denotes conversion parameter information. The conversion parameter information is described by the number of parameters (M parameters in the non-limiting example of Figure 6 in the present specification) set by a conversion model (conversion model ID). In the specific embodiment the conversion parameters include an arrangement of parameter values in each frame, information for specifying an approximate function of the parameters (coefficient values), and the like.

Applicants respectfully submit the claims as currently written distinguish over the applied art.

The teachings in Anderson are cited as the primary teachings with respect to the independent claims, but the claims are believed to distinguish over those teachings in Anderson.

Anderson teaches that a user selects an actor, and the selected actor is placed and oriented in a 3D scene, the user begins to record a movie and causes the actor to move along a user-defined path anywhere in the scene and performs any of a variety of actions (see Anderson at column 6, lines 9-22).

However, Anderson differs from the claims as currently written. Specifically, Anderson does not disclose or suggest approximating a time-series variation of conversion parameters by an approximate function. Anderson further does not describe or suggest that an object region using an approximate function parameter identifies the approximate function and information on the reference object region, as clarified in independent claim 2.

Further, independent claim 6 is believed to distinguish over the applied art to Anderson for similar reasons as noted above, and claim 6 even further specifies an objection region as an approximate figure having representative points.

Moreover, no teachings in Erdem are cited to or are believed to overcome the above-noted deficiencies in Anderson.

Thereby, independent claims 2 and 6, and the claims dependent therefrom, are believed to clearly distinguish over Anderson individually or Anderson in view of Erdem. Further, new dependent claims 37-48 are believed to recite even further features distinguishing over the applied art.

In view of these foregoing comments, the present application is believed to be in condition for allowance, and applicants hereby respectfully request an early and favorable consideration of the present application.

Respectfully submitted,

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